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Research, Education, and Economics
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Results of the sixth sampling (November 5, 2007) of the First-Stubble Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm at Schriever, LA are attached. The study is designed to examine the natural ripening of the first-stubble crop in 2-wk increments, and compare the results for the same harvest date over a 5-yr period (2003 – 2007); consequently, a glyphosate-containing ripener is not applied. Samples consist of 15, hand-cut stalks of clean, trash-free and properly topped cane from each of four replications. **When mechanically harvested, one can expect TRS/TC levels to be 10 to 20% lower as a result of additional trash in the cane.** The study includes eight released Louisiana varieties: LCP 85-384, HoCP 85-845, HoCP 91-555, Ho 95-988, HoCP 96-540, L 97-128, L 99-226, and L 99-233 and the newly released variety HoCP 00-950.

The Ardoyne Farm received timely rains throughout the growing season. As reported previously, all varieties are exhibiting some degree of lodging as a result of the October rains with the greatest degree of lodging occurring in: Ho 95-988, HoCP 96-540, L 99-226, and L 99-233. It should be noted that no rain has fallen at the farm since the October 22nd sampling.

Very little change in stalk height, weight, and density has occurred since the October 22nd sampling when the average of the six varieties with major plantings (core varieties) is considered. Over all, stalk heights and weights of the core varieties are at best average when one considers the previous four years. The newly released variety, HoCP 00-950, continues to have the shortest stalks of the varieties in this test, but its stalks are heavier than LCP 85-384, HoCP 91-555, and L 99-233.

The cool and sunny days were obviously conducive to the crop's natural ripening as both Brix and sucrose levels of the core varieties each increased by a full percentage point. As a result, the average theoretical recoverable sugar (TRS) level for the core varieties increased by 39 lbs/TC for the 14-day sampling interval. The biggest increases (> 50 lbs) were with LCP 85-384 and L 99-233 and the smallest increases (< 25 lbs) were with Ho 95-988 and HoCP 00-950. Although increases in TRS levels were substantial, TRS levels for the core varieties continue to be slightly below the levels reported in previous years. Of the six core varieties, L 97-128 (279 lbs) and HoCP 91-555 (278 lbs) continue to have the highest early TRS levels. TRS levels for these two varieties are higher than both LCP 85-384 (8 lbs) and HoCP 96-540 (33 lbs). The newly released

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HoCP 00-950 has the highest TRS/TC level at 304 lbs/TC, which continues to be 25 and 58 lbs/TC higher than L 97-128 and HoCP 96-540, respectively.

The seventh sampling of the maturity test is scheduled for November 19th.

Reminder. If you would like to discontinue your receipt of these reports or if you know of individuals who would like to begin receiving this information in 2007, please contact Mrs. Sandy Roberts by email (sroberts@srrc.ars.usda.gov). Emailing insures address accuracy. Information regarding USDA research activities can also be found on our website: www.ars.usda.gov/msa/srrc/sru .

Maturity reports are prepared by Dr. Ed Richard of the USDA-ARS Sugarcane Research Lab.

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, November 5, 2007[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Previous sample date[4]	TRS change from previous sample
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	TRS	
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)
LCP 85-384	2007	1.7	96	0.72	1.30	17.22	14.55	84.48	270.0	218.2	51.8
	2006	2.0	100	0.81	1.50	17.58	14.92	84.90	277.6	263.4	14.2
	2005	1.6	82	0.74	1.16	18.00	15.11	83.93	279.4	251.0	28.4
	2004	1.8	100	---	---	17.53	14.70	83.84	271.8	265.0	6.8
	2003	1.6	93	---	---	17.20	14.49	84.22	268.4	255.5	12.9
HoCP 85-845	2007	2.1	97	0.82	1.21	17.29	14.66	84.78	272.4	241.3	31.1
	2006	2.3	91	0.84	1.14	17.42	14.81	85.01	275.5	276.8	-1.3
	2005	1.8	88	0.80	1.16	17.40	14.65	84.21	271.5	260.6	10.9
	2004	2.1	100	---	---	17.53	14.75	84.14	273.1	264.4	8.7
	2003	1.9	85	---	---	17.60	15.00	85.24	279.6	271.5	8.1
HoCP 91-555	2007	1.9	98	0.77	1.21	17.97	15.16	84.35	278.3	242.2	36.1
	2006	1.9	97	0.76	1.17	18.08	15.51	85.77	281.4	259.7	21.7
	2005	1.7	92	0.77	1.10	18.22	15.12	82.96	275.4	261.3	14.1
	2004	1.8	100	---	---	18.46	15.49	83.92	283.8	270.7	13.1
	2003	1.7	92	---	---	18.50	15.64	84.50	287.4	278.6	8.8
Ho 95-988	2007	2.2	97	0.86	1.14	16.51	13.63	82.54	250.1	229.6	20.5
	2006	2.3	101	0.85	1.13	17.58	14.99	85.30	279.4	255.9	23.5
	2005	2.3	88	0.92	1.04	17.31	14.50	83.79	268.1	251.6	16.5
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
HoCP 96-540	2007	2.2	99	0.81	1.23	16.45	13.38	81.33	246.2	213.1	33.1
	2006	2.4	104	0.87	1.12	17.22	14.48	84.06	270.7	258.1	12.6
	2005	2.0	96	0.80	1.17	17.27	14.31	82.90	265.9	249.2	16.7
	2004	2.2	102	---	---	17.24	14.10	81.76	260.1	250.3	9.8
	2003	2.1	91	---	---	17.35	14.55	83.81	271.6	255.5	16.1
L 97-128	2007	2.2	109	0.79	1.19	17.80	15.03	84.45	278.9	247.1	31.8
	2006	2.5	114	0.87	1.02	17.93	15.17	84.59	284.4	275.7	8.7
	2005	2.0	94	0.82	1.10	17.95	14.93	83.17	277.7	256.6	21.1
	2004	2.4	108	---	---	18.31	15.40	84.12	287.9	291.7	-3.8
	2003	2.0	93	---	---	18.95	16.22	85.60	305.7	297.6	8.1
L 99-226	2007	2.6	109	0.83	1.24	17.24	14.37	83.29	267.4	237.5	29.9
	2006	2.7	108	0.89	1.11	18.04	15.47	85.75	291.8	275.4	16.4
	2005	2.4	94	0.87	1.12	18.13	15.33	84.57	287.4	261.0	26.4
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
L 99-233	2007	1.8	109	0.71	1.14	17.02	14.19	83.34	259.1	208.4	50.7
	2006	2.0	112	0.78	1.05	17.29	14.50	83.87	268.1	244.3	23.8
	2005	1.6	94	0.74	1.05	17.31	14.51	83.81	268.2	254.4	13.8
	2004	1.9	110	---	---	17.73	14.64	82.54	268.8	261.3	7.4
(Con'td.	2003	---	---	---	---	---	---	---	---	---	---

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, November 5, 2007[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Previous sample date[4]	TRS change from previous sample
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	TRS	
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)
HoCP 00-950	2007	2.0	95	0.78	1.25	18.59	15.96	85.84	304.1	279.8	24.3
	2006	---	---	---	---	---	---	---	---	---	---
	2005	---	---	---	---	---	---	---	---	---	---
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
Averages[5]	2007	2.0	101	0.77	1.21	17.29	14.50	83.79	267.5	228.4	39.1
	2006	2.1	98	0.82	1.23	17.58	14.93	84.94	276.3	264.5	11.8
	2005	1.8	91	0.79	1.12	17.53	14.66	83.64	271.1	254.9	16.2
	2004	2.1	103	---	---	17.72	14.79	83.44	273.1	266.6	6.5
	2003	1.9	91	---	---	17.73	15.03	84.71	279.7	270.7	8.9

[1] Data for each parameter represents the average of four replications of 15 stalks each.

[2] Stalk diameter and density based on a subsample consisting of 8 randomly selected stalks from the 15-stalk sample of each rep.

[3] Brix factor = .8854; Sucrose factor = .8105.

[4] Previous sample date was October 22, 2007.

[5] Averages are based only on varieties included in previous year's first-stubble maturity study (LCP 85-384, HoCP 85-845, HoCP 91-555, HoCP 96-540, L 97-128, and L 99-233).